

Date: Friday, 31/10/2008 10:01:12 AM
 User: Julie Dawson

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: SHORT STEP ASSEMBLY
Job Number	: 43113		
Estimate Number	: 11999		
P.O. Number	:	Part Number	: D350591122
This Issue	: 31/10/2008 S.O. No. :	Drawing Number	: D2351
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: // Type : LARGE FAB ASSY	Drawing Revision	: E
Previous Run	: 41981	Material	:
Written By	:	Due Date	: 15/11/2008 Qty: 4 Um: Each
Checked & Approved By	: <u>JUD 08/10/31</u>		
Comment	: Est Rev:E 02.10.21 Re-format; Incorporated D2351-041 IPP K J/RF		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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for JUD 08/11/25



Comment: DOCUMENT CONTROL

Photocopy bluefile and type labels as per PPP D350-591-122 CHG003

004

S09/06/13

2.0	D2244116	Step Extrusion
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Comment: Qty.: 0.5000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part Number Description Batch

0.5 D2244-116 Extrusion

B322441 B38023

SAD 09-01-05 (4)

3.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
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Comment: LARGE FABRICATION RESOURCE 1

1-Cut D2244-116 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G

2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.

09-01-05 (4)
SAD

4.0	QC5	INSPECT WORK TO CURRENT STEP
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Comment: INSPECT WORK TO CURRENT STEP

S09/01/05 (x4)

5.0	BENDING	BENDING MACHINE - SKIDTUBES
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Comment: BENDING MACHINE

Bend as per dwg

MB
09-01-06

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Job Number:



Seq. #: Machine Or Operation: Description :

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 09/01/06

7.0

D28502

End Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2850-2 End Bracket 331409

JE 09-01-07 4

8.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Bevel Fwd and Aft end for welding

2-Weld Aft End Bracket per QSI 004 & Dwg D2351 using Welding Jig DT8033

A/R Aluminum Rod m109560

3-Do not Grind Flush

JE 09-01-07 4
JE 09-01-07 4
JE 09-01-07 4

9.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

BF 09-01-08 4

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Sorla 08/08

11.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

SAD 09-01-08 4

12.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

JE 09-01-09 4

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHORT STEP ASSEMBLY

Job Number: 43113

Part Number: D350591122

Job Number:



Seq. #:	Machine Or Operation:	Description :
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13.0	D2582	Step Leg Assembly
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2582	Step Leg Assy	40087

SAD 09-01-09 (4)

14.0	MS20600AD4W3	Cherry Rivets
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Comment: Qty.: 16.0000 Each(s)/Unit Total : 64.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
16	MS20600AD4W3	Rivet	M102929

SAD 09-01-09 (4)

15.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
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Comment: LARGE FABRICATION RESOURCE 1

1-Rivet Leg Assembly as per Dwg D2351

SAD 09-01-09 (4)

16.0	QC5	INSPECT WORK TO CURRENT STEP
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Comment: INSPECT WORK TO CURRENT STEP

SAD 09-01-09 (4)

17.0	D267334	End Plate
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2673-34	End Plate	335887

SAD 09-01-13 4

18.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
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Comment: LARGE FABRICATION RESOURCE 1

1-Weld Fwd End Plate per QSI 004 & Dwg D2351

A/R Aluminum Rod M108037

2-Grind end plate flush.

SAD 09-01-13 4
SAD 09-01-13 4

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Job Number: 43113

Part Number: D350591122

Job Number:



Seq. #: Machine Or Operation: Description :

19.0 QC9 VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

BF 09-01-13 (4x)

20.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 09/01/13 (x4) (4)

21.0 HAND FINISHING1 HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Touch up Alodine

FL 09/01/13 (4)

22.0 POWDER COATING POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

START TIME:

3:40

OVEN TEMPERATURE:

320°

FINISH TIME:

4:10

FL 09/01/14 (4)

23.0 HAND FINISHING1 HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Wing Walk per Dwg D2351 and QSI 005 4.4

Batch: M110454

G.m 09.01.15 (4)

24.0 QC3 INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

S 09/01/15 x4

25.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

26.0 D22301 Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick:

Packing Kit Qty Part Number Description Batch

343444

P 09/01/15

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Drawing Name: SHORT STEP ASSEMBLY

Job Number: 43113

Part Number: D350591122

Job Number:



Seq. #:

Machine Or Operation:

Description :

1 D2230-1 Mounting Lug

27.0

D22303

Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch
1 D2230-3 Mounting Lug 43223

28.0

D2856400

Abrasion Strip



Comment: Qty.: 0.6000 f(s)/Unit Total: 2.4000 f(s)

Pick:

Packing KitQty Part Number Description Batch
1 D2856-400 7.20" Abrasion Strip 42076

29.0

AN337A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total: 8.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch
2 AN3-37A Bolt 9240

30.0

AN413A

Bolt



Comment: Qty.: 3.0000 Each(s)/Unit Total: 12.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch
3 AN4-13a Bolt M109285

31.0

AN960JD10

Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total: 16.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch
4 AN960JD10 Washer M109061

12/16 (4)

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Job Number: 43113

Part Number: D350591122

Job Number:



Seq. #: Machine Or Operation: Description :

32.0 AN960JD416 Washer



Comment: Qty.: 6.0000 Each(s)/Unit Total: 24.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch
6 AN960JD416 Washer M109249

33.0 MS21042L3 Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total: 8.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch
2 MS21042L3 Nut (or -3) M108816

34.0 MS21042L4 Nut



Comment: Qty.: 3.0000 Each(s)/Unit Total: 12.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch
3 MS21042L4 Nut (or -4) M109282

35.0 QC4 INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

36.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-591-122

Location: 86

PPP Rev: D

37.0 QC21 FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



W 09.10.20

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN KE	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2351	REV. E SHEET 1 OF 2
DATE 05.11.14		TITLE HIGH FLOAT STEP ASSEMBLY	SCALE NTS
A	95.02.15	NEW ISSUE	
B	97.05.22	END CAPS CHANGED	
C	97.07.23	ADDED BUSHING AND FACING INFO	
D	98.12.17	CHANGED TO BEND, D2850 REPLACES D2357 & D2358, INCORP. DEO 9084	
E	05.11.14	UPDATE FINISHING NOTE	

D2351 HIGH FLOAT STEP ASSEMBLY PARTS LIST

Part No.	Description	QTY -041	QTY -042
D2351-041	High Float Step Assembly (LH)	X	
D2351-042	High Float Step Assembly (RH)		X
D2244-55.4	STEP EXTRUSION*	1	1
D2582	STEP LEG ASSEMBLY	1	1
D2673-34	STEP END PLATE	1	1
D2850-1	END BRACKET	1	
D2850-2	END BRACKET		1
MS20600AD4W3	RIVETS	16	16

*cut per drawing

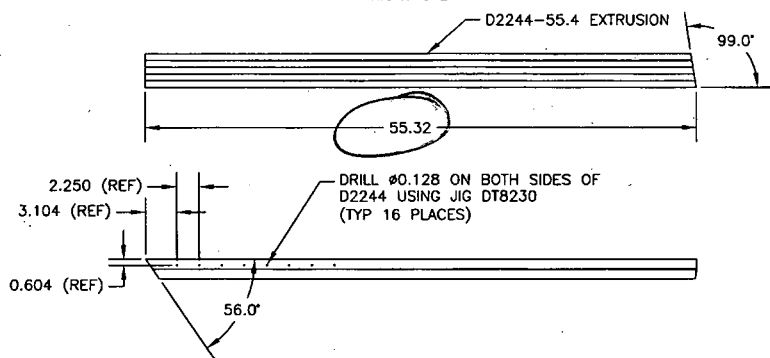
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RETURN TO
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UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 43113
RELEASED
05.11.28

PH
ECN 1105**UNDER REVIEW**07.11.24
PUR NO. 263

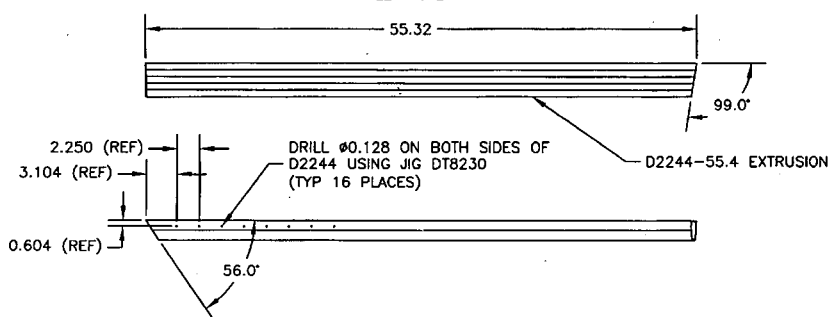
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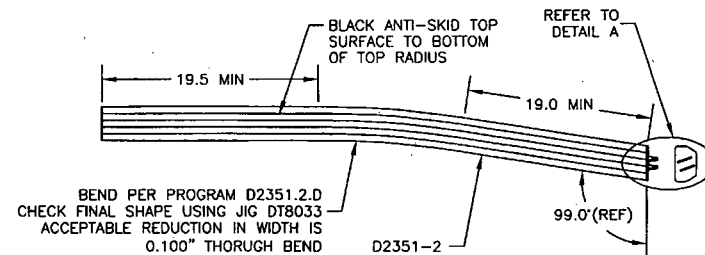
D2351-2 CUTTING/DRILLING DETAIL
RIGHT STEP



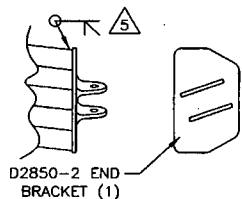
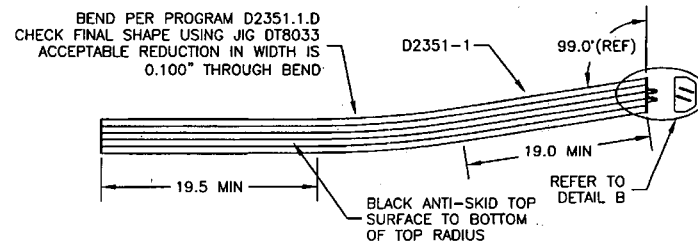
D2351-1 CUTTING/DRILLING DETAIL
LEFT STEP



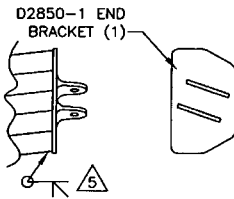
D2351-042 BENDING/ASSEMBLY DETAIL
RIGHT STEP



D2351-041 BENDING/ASSEMBLY DETAIL
LEFT STEP

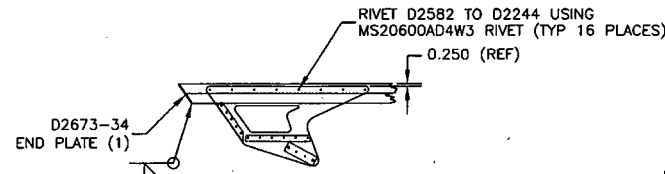


DETAIL A
SCALE: 1:4



DETAIL B
SCALE: 1:4

D2582 STEP LEG ASSEMBLY (1)



GENERAL NOTES

- 1) WELD PER DART QSI 004
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
 - 3) ALL DIMENSIONS ARE IN INCHES
 - 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- CHAMFER D2244 EXTRUSION 0.075"x45" BEFORE WELDING D2850-1 OR D2850-2 IN PLACE. DO NOT GRIND FLUSH.

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DESIGN KE	DRAWN BY PH	DART	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
CHECKED #	APPROVED #	DRAWING NO. D2351	REV. E
DATE 05.11.14	TITLE HIGH FLOAT STEP ASSEMBLY	SHEET 2 OF 2	SCALE 1:12

RELEASED
05.11.28

UNDER REVIEW

REV 1105

03.11.29

REV 1105

UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO 43113

SHOP COPY
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